

Name _____ Date _____

Misleading Statistics (pages 78–81)

Ways to mislead include choosing an expanded scale, not starting a scale at zero, and omitting labels and titles, as well as choosing the wrong measure of central tendency.

| | |
|---|--|
| <p>Seeing when a Graph is Misleading</p> | <ul style="list-style-type: none"> • Is there is a label on both scales and a title on the graph? • Does the scale start at zero? • The mean is best to represent data that are grouped closely together. • The median is best for widely scattered data. • The mode is best for data that have several repeated data values. |
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EXAMPLES

A What measure of central tendency would best represent the ages of people in your math class? *Many of the ages will be repeated. The mode is best.*

B What measure would best represent the annual salaries in a large company? *The salaries are widely scattered. Choose the median.*

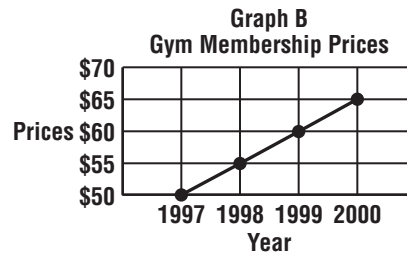
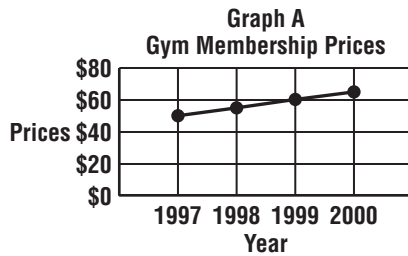
Try These Together

1. What measure best represents the distance each student lives from school?
HINT: Are the data values fairly close together?

2. Is the mode for a set of data always one of the data values?
HINT: Remember the definition of mode.

PRACTICE

Fitness *The graphs display the same data for prices at the Fitness Center.*



3. If someone were trying to sell memberships by saying that it will cost a lot more in the future, which graph might be used?

4. Why is graph B misleading?



5. **Standardized Test Practice** The results of a class survey on the number of hours each student spends on homework every night are shown in the table. What is the mode for this set of data?

- A** 1 **B** 2 **C** 4 **D** 8

| Number of Hours | Frequency |
|-----------------|-----------|
| 1 | 4 |
| 2 | 8 |
| 3 | 2 |
| 4 | 3 |

Answers: 1. mean 2. yes 3. Graph B 4. It does not show \$0 with a break in the vertical axis between \$0 and \$50. 5. B